

sub 2 I claim:

1) A system for calibrating a multi-lens camera comprising,
a structure which has indicia along at least some of its edges and which is shaped so that
(a) each edge of the structure which will be seamed is captured by two lenses, and (b) the
5 image captured by each camera lens includes at least one row of indicia along each edge
which will be seamed,
whereby when said multi-lens camera which is positioned in the center of said structure
records images, a particular edge of said structure is recorded by two cameras, and said
cameras can be calibrated by determining the parameters needed to make the indicia on
10 said particular edge coincide.

2) A system for calibrating a multi-lens camera comprising,
15 a cube shaped structure with visible indicia along the edges of the cube,
whereby when said multi-lens camera positioned in the center of said cube records
images, a particular edge of said cube is recorded by two cameras, and said cameras can
be calibrated by determining the parameters needed to make the dots on said particular
edge coincide.

20 3) The system recited in claim 2 where the edges of said cube have two rows of dots
spaced apart an amount equal to the distance between the lenses of said camera.

25 4) The system recited in claim 2 wherein the shape of said dots is such that when viewed
through a fisheye lens they appear round.

5) A method of calibrating a multi-lens camera comprising the steps of,
recording overlapping images of a test pattern, said test pattern including identifiable
30 indicia along the edge thereof,
determining the parameters required to seam said images into a panorama such that said
indicia coincide, whereby said parameters form calibration parameters for said camera.

6) The method recited in claim 5 wherein said test pattern comprises the edges of a cube, said cube having indicia along the edges thereof.

7) The system recited in claim 1 where the edges of said structure have two rows of dots spaced apart an amount equal to the distance between the lenses of said camera.

8) The system recited in claim 1 wherein the shape of said indicia is such that when viewed through a fisheye lens they appear round.

9) The system recited in claim 7 wherein the shape of said dots is such that when viewed through a fisheye lens they appear round.

10) The structure recited in claim 1 wherein said structure has two rows of dots along each edge, said dots being separated by an amount equal to the distance between the lenses on said camera, whereby said images need not be corrected for parallax.

11) A method of calibrating a camera comprising the steps of:
placing said camera in a calibration structure and recording a series of images,
determining the parameters required by a seaming program in order to seam the images from said camera into a panorama,
recording said calibration parameters along with an identification of the camera that produced the images.

12) A method of recording a particular set of images and producing a panorama from said particular set of images with a particular multi-lens camera comprising,
recording with said camera a set of calibration images of a calibration structure, an identification of said camera being recorded along with said calibration images, determining the parameters required to seam said set of calibration images into a panorama,
recording said parameters along with an identification of said camera,
capturing said particular set of images with said particular camera and recording said images along with an identification of said camera,
seaming said particular set of images into a panorama using said parameters.

